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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,407	12/23/2005	Lothar Bruckner	Bruckner L ET AL 3 PCT	6093

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EXAMINER	
YOUNG, EDWIN	

ART UNIT	PAPER NUMBER
3681	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/562,407	BRUCKNER ET AL.	
	Examiner	Art Unit	
	Edwin A. Young	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *6-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *6-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 December 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/23/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is the first action on the merits for application 10/562,407. Claims 6-10 are currently pending in this application.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. PCT/DE04/00900, filed on 04/29/2004.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 12/23/2005 has been considered by the examiner.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
(f) BACKGROUND OF THE INVENTION.
    (1) Field of the Invention.
    (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(g) BRIEF SUMMARY OF THE INVENTION.

(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(i) DETAILED DESCRIPTION OF THE INVENTION.
(j) CLAIM OR CLAIMS (commencing on a separate sheet).
(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected to because of the following informalities:

All references to specific claims should be removed from the specification. The specification and the preliminary amendment to the specification are replete with references to claims; for example page 1, paragraph 1. The references to claims should be removed since claim numbering and scope varies during prosecution.

Page 3, paragraph 4, "according to German Patent DE 198 22 193 A1" should be removed, since Figure 1 depicts an embodiment of the present invention and not what is disclosed in German Patent DE 198 22 193 A1.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6

- The use of the phrase "pressure valve" incorrectly describes the element (5) it references. The element (5) is commonly referred to in the art as a piston. All instances in the claims and specification that refer to element (5) as a "pressure valve" should be changed to - -piston- - to accurately describe the element.
- The use of the phrase "can be" in lines 4 and 5 is vague, as it is unclear whether the limitations that follow are actually required features of the present invention.
- Line 4, "one another" could refer to any combination of the following elements: a first body, a second body and a pressure valve. Therefore, it is unclear which elements can be connected to one another.
- Line 6, "a pressure valve" appears to be a double inclusion of "a pressure valve" in line 2. Therefore, line 6, "a pressure valve" should be changed to - -the pressure valve- -.
- The phrase "in particular" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
- Claim 6 recites the limitation "the adjusting force" in line 8. There is insufficient antecedent basis for this limitation in the claim. Line 8, "the adjusting force" should be changed to - -an adjusting force- -.

- Claim 6 recites the limitation "its thrust bearings" in line 10. There is insufficient antecedent basis for this limitation in the claim. Line 10, "its thrust bearings" should be changed to - -a plurality of thrust bearings associated with the spring mechanism- -.

Claim 8

- Line 4, "a thrust bearing thereof" appears to be a double inclusion of "thrust bearings" in line 10 of claim 6. Line 4, "a thrust bearing thereof" should be changed to - -the thrust bearing- -.

Claim 10

- Claim 10 is in improper method form, which requires a method step to include an active verb, i.e. controlling. Claim 10 should be amended to recite proper method steps in the gerund form.
- Line 5, "its" is unclear as to which element is being referenced. As presently worded, line 5 appears to state that the at least one thrust bearing is associated with the sensor.
- Line 5, "at least one thrust bearing" appears to indicate that the thrust bearing is capable of determining characteristic values, which only the sensor does. Claim 10 should be amended to clearly state that only the sensor determines the characteristic values.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 6, 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over DREXL (US 6,540,059) in view of FRIEDRICH (US 5,758,758).

Regarding claim 6 as best understood, DREXL discloses a disk clutch (see Fig. 2), with which a first body and a second body (110) in which a pressure valve to which a pneumatic pressure is applied is mounted in a rotationally fixed but axially displaceable manner, can be connected to one another in a non-positive manner via intermeshing disks that can be acted upon by the force of the pressure valve, of a manual transmission (108) for motor vehicles, with a spring force of a spring mechanism (111) which influences an adjusting force produced by a power source for operation of the clutch, wherein the spring mechanism and/or at least one of its thrust bearings (40) is/are provided with a sensor (115) which detects solid-state changes for determining the spring force emanating from the spring mechanism and a device for transmitting (86) the measured value thus determined for regulating the adjusting power source, whereby a deceleration force of the pressure applied to the pressure valve counteracting the spring mechanism (111) in the opening of the clutch is part of the adjusting force or thrust force acting on the clutch. However, DREXL does not disclose using hydraulic pressure applied to the pressure valve.

FRIEDRICH discloses in Figure 1 using hydraulic pressure to actuate the piston of a clutch assembly (see column 5, lines 29-31).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute the pneumatic pressure system of DREXL with the hydraulic system of FRIEDRICH, for the predictable result of applying pressure to actuate a piston of a clutch assembly.

Regarding claim 7 as best understood, DREXL discloses the spring mechanism (111) consisting of at least one plate spring or a combination of a plate spring with an ondular washer.

Regarding claim 10 as best understood, DREXL discloses a method for operating a clutch according to claim 6, wherein the adjusting force acting on the clutch (110) is controlled and/or regulated as a function of characteristic values of the spring mechanism (111) currently determined by the sensor (115) and/or its at least one thrust bearing (40).

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over DREXL (US 6,540,059) in view of FRIEDRICH (US 5,758,758) as applied to claim 6 above, and further in view of LUTHJE et al. (US 2003/0089177 A1).

Regarding claim 8 as best understood, DREXL in view of FRIEDRICH discloses the clutch according to claim 6, described in detail above, but does not disclose the sensor being a piezoresistive, amorphous carbon layer applied permanently to a surface area of the spring mechanism or a thrust bearing thereof.

LUTHJE et al. discloses using a piezoresistive, amorphous carbon layer as a sensor for measuring actual condition parameters on surfaces of mechanical components (see ABSTRACT).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to substitute the sensor of DREXL, as modified by FRIEDRICH, with a piezoresistive, amorphous carbon layer applied permanently to a surface area of the spring mechanism or a thrust bearing thereof, in light of the teachings of LUTHJE et al., for the predictable result of sensing actual condition parameters of surfaces of mechanical components (see LUTHJE et al., ABSTRACT).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over DREXL (US 6,540,059) in view of FRIEDRICH (US 5,758,758) as applied to claim 6 above, and further in view of KEENEY (US 6,167,997).

Regarding claim 9 as best understood, DREXL in view of FRIEDRICH discloses the clutch according to claim 6, described in detail above, but does not disclose the sensor being provided with means for a telemetric signal pickup.

KEENEY discloses a clutch assembly (see Fig. 3) wherein telemetry can be used to control the actuator (32) (see column 2, lines 51-59).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the sensor of DREXL, as modified by FRIEDRICH, with means for a telemetric signal pickup, in light of the teachings of KEENEY, in order to eliminate the need for a direct connection to the control unit.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin A. Young whose telephone number is 571-272-4781. The examiner can normally be reached on M-TH 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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